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Effect of stigma reduction intervention strategies on HIV test-uptake in low and middle-income countries: a realist review

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Review question(s)

How and under what circumstances do stigma reduction intervention strategies influence HIV test-uptake?

Searches

We will perform an electronic database search in the following databases: PubMed, Excerpta Medica Database (EMBASE), POPLINE, PsycINFO, Sociological Abstracts, Web of Science, Scopus and the Cumulative Index to Nursing and Allied Health Literature (CINAHL). Given that grey literature is a relevant source of information for realist reviews, we will also perform electronic searches in 'Google Scholar', 3ie database, Campbell International Development review group and databases of two international organizations, namely WHO and UNAIDS for program reports, evaluation reports or policy documents. The search will be conducted using an iterative, purposive searching process. Snowball techniques will be used to identify additional studies from primary studies that might suggest other contextual influences and descriptors of mechanisms. The search will stop when there is sufficient evidence to reasonably claim that the final theory is plausible. The publications in English will only be included. There will be no restriction on the publication date.

The key search terms are as follows:

"HIV" OR "Human immuno-deficiency virus", OR "Acquired immuno-deficiency Syndrome" OR "AIDS" OR "HIV/AIDS"

AND

"Stigma" OR "discrimination" OR "Blame" OR "Shame" OR "Attitude" OR "stereotype" OR "fear" OR "prejudice"

AND

"Interventions" OR "programs" OR "reducing stigma" OR "counseling" OR "pamphlet" OR "communication" OR "training" OR "peer education" OR "health education" OR "visual information" OR "group discussion" OR "media advertisement" OR "behavior change" OR "attitude change" OR "stigma reduction"

AND

"HIV VCT" OR "HIV testing" OR "voluntary counseling and testing" OR "HIV counseling and testing" OR "HCT" OR "HIV voluntary counseling and testing" OR "HIV anonymous counseling and testing" OR "HIV ACT".

Types of study to be included

The studies to be included are quantitative, qualitative and mixed-method studies or program reports and policy documents that describe about various forms of stigma or describe about comparisons between Context-Mechanism-Outcome configurations between different stigma reduction intervention strategies.

Condition or domain being studied

HIV stigma is a major barrier for HIV testing. Testing for HIV can itself lead to stigma due to negative social perceptions about the test. Moreover, people fear that stigma of a positive HIV test result may lead to consequences, such as loss of friendship and family ties, dismissal from school and occupation, and denial from health care. Most importantly, the fear of getting tested for HIV might cause delayed access to treatment and care, which leads to higher transmission and lower survival rates. Therefore, it is very important that stigma reduction intervention strategies that are effective to increase HIV test-uptake be identified and implemented.

Several intervention strategies to reduce HIV stigma have been developed and tested. Moreover, studies from high-income countries have reported that these intervention strategies have not only been effective to reduce stigma, but also to increase HIV test-uptake. However, findings from studies conducted in low and middle-income countries indicate that such intervention strategies are effective to increase HIV disclosure and safer sex practices, but not to increase HIV test-uptake. Thus far, it is not known why stigma reduction intervention strategies are more effective in one context and less effective in another to increase HIV test-uptake, and also what exactly influences the fact that strategies are more or less effective.

Stigma reduction is very complex and its impact on the behavior of people might be influenced by various individual and social-contextual factors. Especially in low and middle-income countries, individual factors, such as lack of knowledge, fear of HIV infection, fear of disclosure and belonging to high-risk populations influence the effect of stigma reduction on HIV test-uptake. Likewise, social-contextual factors, such as poverty, illiteracy, lack of availability of treatment, cultural and gender norms impact on this process. We expect the individual factors to be determined and controlled by social-contextual factors. If this is true, then the interaction between both would also influence the outcome of stigma reduction intervention strategies. This potential causal chain is yet to be explored in reviews focusing on low and middle-income countries.

In addition, the mechanisms by which stigma reduction intervention strategies impact on HIV test-uptake should be clarified. Information on causal mechanisms is imperative to design appropriate strategies to prevent HIV transmissions in low and middle-income countries. Therefore, we will conduct a realist review that will synthesize existing studies to understand how one or more individual and social-contextual factors influence the effect of stigma reduction intervention strategies on HIV test-uptake in low and middle-income countries.

Participants/ population

We use five core inclusion criteria:

(a) papers related to HIV-related interventions that should primarily address actionable causes of HIV stigma or have some components to reduce HIV stigma;

(b) should be based in the low and middle- income countries;

(c) should be quantitative, qualitative and mixed-method studies or program reports and policy documents that describe about various forms of stigma or describe about comparisons between Context-Mechanism-Outcome configurations between different stigma reduction intervention strategies;

(d) should be written in English; and

(e) the outcome should relate to HIV test-uptake.

There will be no exclusions based on the target population and study quality.

Intervention(s), exposure(s)

We relied on Scambler's Hidden Distress Model to identify three stigma reduction intervention strategies that target a general population namely, interventions to create awareness (i.e., peer education, in-depth discussion, lecture, role-play, interactions, advertisement, radio broadcast, school curriculum); interventions to provide support (i.e., one-to-one counseling, empathy instruction, group counseling, support groups, training, access to treatment, nutritional support); and interventions to develop laws (i.e., developing platforms to discuss about stigma, providing compensation, community meeting, community organizing, laws, health policies).

Comparator(s)/ control

This realist review will integrate both quantitative and qualitative data to comprehensively understand how stigma reduction intervention strategies work, in what circumstances and for whom, to increase HIV test-uptake in low and middle-income countries. The quantitative data examines which intervention strategy is more or less effective to increase HIV test-uptake and the qualitative data can lend greater insights into the mechanisms and contextual factors involved. The control group will be the non-interventional group in the quantitative studies, but there may not be a control group in the qualitative studies.

Context

This review will uncover stigma reduction intervention strategies that have been implemented and tested in low and middle-income countries.

Outcome(s)

Primary outcomes

This review will have a singular outcome, that is HIV test-uptake.

Secondary outcomes

None

Data extraction, (selection and coding)

Documents will be included in the review based on relevance, that is, the extent to which they inform development of the initial theoretical framework or clarify the Context-Mechanism-Outcome configurations.

A screening of title, abstracts and keywords of the documents that will be identified in the initial search will be performed. Two reviewers will independently assess the relevance of the content in identified records for our synthesis, by reading the abstract against the following three criteria: Does the abstract refer to stigma reduction?; Does the abstract describe HIV test-uptake as dependent outcome?; and Does the abstract report empirical methods to test hypotheses related to our proposed mechanisms? Abstracts will be coded as ‘Yes’ if all three-inclusion criteria are satisfied, as ‘Unclear’ if the abstract satisfies at least one criterion, and ‘No’ if none of the criteria are met. If no abstract is available, the title of articles will be screened for eligibility, and potentially relevant studies will be coded as ‘Unclear’.

After the initial screening of abstracts, the full-text of articles coded as ‘Yes’ and ‘Unclear’ will be retrieved, and evaluated by two independent reviewers for a second time to ensure that one or more of our inclusion criteria are met. Disagreements about articles to be included and excluded will be resolved through group consensus. The reasons for exclusion will be recorded.

Data will be extracted from the article based on a data extraction tool by the lead author and checked by a second member of the subgroup. As the contents of the initial theoretical framework are embedded in the data extraction form, this will provide a template to interrogate ‘what works, for whom, in what circumstances’. When extracting data, if an article does not include information relevant to a question in the form, the extractor will record ‘Not reported.’ Direct quotation from the article is considered very informative and will be accompanied by the page number from which the quote is taken. As the aim of the data extraction process is to evaluate the initial theoretical framework, the content from each group’s data extraction tables will be incorporated to form evidence tables. To test the usability and functionality of the data extraction form, the tool will be pretested on two purposefully selected articles.

Summary of data extraction tool

1. Study identification details: Authors, title, location, publication date and date of study

2. Intervention characteristics and objectives: Details of what was done in a program, duration, target group, study type, comparison

3. Outcome and study objective: What is the outcome (stigma reduction/HIV test-uptake)? ?

4. Description of association between intervention and outcome; effect sizes (or risk ratios)

5. Contexts: For whom (target population)? In what circumstances? Where?

6. Contextual factors reported to be of influence: Individual and social-contextual factors

7. Mechanism or reported underlying assumptions: Descriptions about how and why the program may have worked in particular contexts

8. Mechanism is based on: Is the evidence of the mechanism based on: empirical evidence, reference to literature, or author opinion/speculation in the discussion

9. Mechanism Number: Does this mechanism in the article reflected in the mechanisms from the initial framework? If yes, assign mechanism with the associated number from the initial framework (e.g., M1, M2)

10. Page: Page number from which the mechanism is drawn

11. Paragraph: Paragraph on the page from which the findings/mechanism is drawn

12. Starts with"…": First few words of sentence from which the mechanism is drawn?

13. Richness: Available description of the mechanism

14. Evaluation: time of the evaluation, level of evaluation and method of evaluation

15. Additional articles: References found in the article that may lead to new mechanisms

16. Comments: General comments/ comments about the article.

Risk of bias (quality) assessment

It is likely that there will be a significant heterogeneity among the studies in terms of interventions and populations. Assessment of the quality of papers will be performed using a Mixed Methods Appraisal Tool. This tool allows an assessment of quantitative and qualitative data and provides one tool for appraising the quality of diverse study designs. The tool will not be applied to the whole study but only to those aspects that relate to our program theory. A table will be developed that summarizes authors, objectives, study type, different methodological aspects and study country for all the studies included. No exclusions will be made based on the study quality.

Strategy for data synthesis

The analysis and synthesis will be based on the principles of realist evaluation and will follow the following steps:

1. Organization of extracted data into evidence tables: The data extracted from each study using the data extraction tool will be summarized and organized in one or more evidence tables. The evidence tables will also include the link back to the source papers.

2. Theming by individual reviewers: Quantitative data will be analyzed by computing pooled hazard ratios or risk ratios as appropriate, with 95% confidence intervals for each intervention strategies using R-software package. If the heterogeneity among the studies cannot be controlled, the quantitative data will be analyzed narratively. On the other hand, qualitative data will be coded and themed by two independent reviewers in N-Vivo software package. Line-by line coding of the result section of the selected studies will be performed. Themes will be developed from the initial codes based on repeating ideas that are similar in meaning and the relationships that will be formed between the codes. Themes are patterns across data sets that are important to the description of a phenomenon. Identified themes will then be challenged between the reviewers and contrary evidence will be sought.

3. Formulation of chains of inference from the identified themes: We will then look for chains of inference (connections) across extracted data and themes. This will follow an iterative process, in which connections will be looked for across data/themes to build up a cumulative picture. The two reviewers will jointly formulate the

connections and this information is shared and discussed within the review team.

4. Linking the chains of inference and developing generative mechanisms: The chains of inference will be linked together to develop potential mechanisms, contexts and outcome chains (generative mechanisms). These generative mechanisms will act as synthesized statements of findings and will be confirmed by returning to the source evidence. Patterns of similar mechanisms will then be compared across different contexts to see if similar outcomes are generated and the program theory will be improved, if necessary, if new CMO configurations arise. All these interpretive processes will be performed through the discussion and agreement within the review team.

5. Refining the initial theoretical framework: Finally, the initial theoretical framework will be refined to reflect the generative mechanisms that are supported by evidence. In the final theoretical framework, arrow thickness will be used to reflect the relative strength of the evidence, and dashed connecting lines will indicate hypothesized configurations of context, mechanism and outcome.

Analysis of subgroups or subsets
None planned

Dissemination plans
Results of this study will be disseminated to academic and non-academic audiences through peer-reviewed publications, conferences, formal and informal presentations to policy makers and practitioners. Evidence generated from this synthesis will be used to inform the development of theory-driven, evidence-based interventions aimed at preventing HIV transmission through increasing HIV test-uptake.

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Ongoing

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Stage of review at time of this submission	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No